

his pen, but by his lovable personality, which gained for him thousands of friends. His home "Riverby" on the Hudson River, with its cabin-study "Slabsides" in the adjoining hills, and his summer retreat "Woodchuck Lodge," at his birthplace in the Catskills, were yearly visited by hundreds of his followers. It is gratifying to learn that within a month of his death a Memorial Association was organized and incorporated to acquire these places which are so closely associated with Burroughs' life and works, and to preserve them as shrines for those who, in succeeding years, will know John Burroughs only through the written words which form his legacy to the world.

XXIX.—*Notices of recent Ornithological Publications.*

Bangs and Penard on American Birds.

[Notes on some American Birds, chiefly Neotropical. By Outram Bangs and Thomas E. Penard. Bull. Mus. Comp. Zoöl. Cambridge, Mass. lxiv. 1921, pp. 365-397.]

An important systematic paper in which two new genera, one new species, and five new races are proposed, while a number of species and subspecies are reviewed, involving changes and corrections in nomenclature and synonymy.

The new genera are *Cometornis* (perilously near *Cosmetornis* in our opinion) to take the place of *Lophotriccus*, with type *Todirostrum squamacrista* Lafres., and *Muscifur* near *Myiarchus* for type *M. semirufus* Scf. & Salv. The new species is *Cometornis vitiosus* from Peru, based on an old Lafresnaye specimen dating from early in the last century!

Beebe on the Pheasants.

[A Monograph of the Pheasants. By William Beebe. Vol. ii. pp. xv+269; 24 col. pls., 24 photogr., 5 maps. London (Witherby for the New York Zoological Society), 1921. 4to.]

The long-expected second volume of Mr. Beebe's great

and sumptuous work on the Pheasants has at last appeared, and fully bears out the expectations formed by the first. We understand the publication of the other two volumes, which will complete the work, will not be long delayed.

The present volume deals with the Kaleege and Silver Pheasants of the genus *Gennaëus*, the Malayan Firebacks of the genera *Acomus* and *Lophura*, the remarkable White-tailed Wattled Pheasant of the genus *Lobiophasis*, and the Jungle-Fowls, four in number, of the genus *Gallus*.

Perhaps the most valuable and remarkable feature of this work are the personal observations of Mr. Beebe himself, which are chiefly included under the heading of "The Bird and its Haunts." The success which Mr. Beebe had (during the comparatively short time in which he was travelling in the east) of observing in their native jungles so many species, is extraordinary. Of the nine species of *Gennaëus* he has personal experience of five; he saw four out of the five species of Firebacks as well as the *Lobiophasis*, and three out of the four Jungle-Fowls.

In his taxonomy, Mr. Beebe is distinctly conservative and a lumpner. He reduces the number of species of *Gennaëus* to nine—a great reduction from sixteen of the Hand-list and Mr. Baker's estimate of eight species and eight subspecies. Mr. Beebe believes that the great number of the species described chiefly by Oates from Burma, and often founded on single specimens, are natural hybrids which occur at the junction of the ranges of *G. lineatus* with the more western *G. horsfieldi* and the more eastern *G. nycthemerus*, and he has devoted a good deal of argument to endeavouring to prove this thesis. We shall not attempt here to give an opinion on this question, but in any further attempt at revision Mr. Beebe's views must have great weight.

The coloured plates, of which there are forty-four, are, with the exception of five, reproduced from paintings by Mr. George Lodge. Mr. C. R. Knight, the American bird-artist, is responsible for the Silver (*Gennaëus nycthemerus*) and the Fireback (*Lophura ignita*); while Mr. Grönvold contributes three, illustrating chicks and plumages. Our

chief criticism of the plates is that there is too much scenery and too little bird in a good many of the cases, but we cannot forebear our admiration of them as a whole. The photogravures from Mr. Beebe's own photographs give one a wonderful idea of the country which the various species inhabit, and the maps are of the greatest value to illustrate the range. We congratulate Mr. Beebe, his artists, and publishers on their joint achievement.

Boubier on Migration Routes.

[Les cinq éventails de migration des oiseaux de la faune paléarctique. Par Maurice Boubier. Bull. Soc. Zool. Genève, ii. pp. 216-228, map, 1919.]

M. Boubier, after examining all the facts available, has conceived the idea that the migration routes of the birds of the Palearctic Region are best represented by fan-like or radiating lines, open towards the north, fan-like towards the south. These five fans are, briefly :

1. European-Senegambian. Birds breeding from western Siberia to Greenland, passing south along western Europe to western Africa.

2. Caucaso-Zambesian. Birds breeding in south-eastern Europe and western Asia pass through Egypt and along the Red Sea to eastern Africa as far as Natal.

3. Aralo-Malabaric. Birds of eastern Russia and central Asia pass through Beluchistan to the western coasts of India.

4. Himalayan-Hindu. Birds nesting in the Himalaya winter in the Indian plains.

5. Sibero-Malayan. Birds nesting in eastern Siberia and Kamchatka, passing south to eastern India and the Indo-Malayan countries.

The fans are shown depicted on a sketch-map, and worked out with examples ; the idea is somewhat novel, and this method of representing migration routes is probably much more in accordance with the facts than

the more detailed arrangement of route-lines such as were first proposed by the late Prof. Palmén.

Chapman on South-American Birds.

[Descriptions of apparently new Birds from Bolivia, Brazil, and Venezuela. By Frank M. Chapman. American Museum Novitates, No. 2, 1921, pp. 1-8.]

Eight new forms are described. Of these, four are new species as follows:—*Capito brunneipectus*, *Nonnula amaurocephala*, and *Microrhopias emilie* from Brazil, belonging to the Museum Goeldi at Para, and *Rhopochares cochabambæ* from Bolivia, collected by Miller and Boyle for the American Museum.

The periodical in which these appear is a new one and is stated to be "issued as occasion requires for the publication of preliminary announcements etc. The articles are to be numbered serially and paged independently."

Courtois on the Birds of China.

[Les Oiseaux du Musée de Zi-ka-wei. Mém. concernant l'Histoire Naturelle de l'Empire Chinois par des Pères de la Compagnie de Jésus. Vol. v. cahier 3, fasc. 1-4, pp. 1-121, pls. 1-45, 1912-1918.]

There has recently reached us from China a memoir on the birds of the Zikawei Museum, near Shanghai, in four quarto parts. Though nowhere stated in so many words, the letterpress and the plates appear to be the work of the Rev. R. L. Courtois, S.J., the Director of the Museum and a member of our Union.

The Museum of Zikawei was founded by the late Père Heude, who travelled extensively in China and Malayan countries. In the present publication is a list of the birds in the collection, arranged according to Oustalet and David's work on the birds of China, with Latin and Chinese names, localities, and remarks on the nests and eggs when in the collection. The first fascicule contains a list of 318 species in the collection, the second a series of 13 plates of nests and eggs of Chinese birds, the latter

reproduced by direct photography and coloured by hand. The third and fourth fascicules contain supplementary lists of birds in the Museum collection, and photographs of selected mounted specimens, also coloured by hand. The whole work is a monument to the industry of our fellow-member, and will be undoubtedly of great value to all students of Chinese birds.

Griscom and Nichols on the Seaside Sparrows.

[A Revision of the Seaside Sparrows. By Ludlow Griscom and J. T. Nichols. Abstr. Proc. Linn. Soc. New York, no. 32, 1920, pp. 18-30.]

The Seaside Sparrows are a rather unobtrusive little group of Fringillidæ included in the genus *Passerherbulus*, and confined, as their name implies, to the salt-marshes along the Atlantic and Gulf coasts of the United States.

The authors had the advantage of examining nearly 700 specimens, and it took them two months to arrive at their final conclusions. They recognize three species, one of which, *P. mirabilis*, can be divided into seven local races. Two of these are new and described here: *P. m. juncicola* from north-west Florida, collected by the senior author, which originally set him on the task of rearrangement, and *P. m. howelli* from Alabama.

Gurney on Norfolk Ornithologists.

[Presidential Address to the Members of the Norfolk and Norwich Naturalists' Society at their 51st Annual Meeting. By J. H. Gurney, Trans. Norfolk and Norwich Nat. Soc. vol. xi. 1919-20, pp. 1-22.]

In his address to the Norfolk Naturalists' Society, Mr. Gurney, who has occupied the Presidential Chair for four years, chose as his subject the lives and labours of several of the more eminent ornithologists of East Anglia, among whom the best known were: Henry Stevenson, author of 'The Birds of Norfolk,' who died in 1888; Alfred Newton; Thomas Southwell, who completed Stevenson's work after his death; Edward Clough Newton, the falconer; and, finally, Mr. Gurney's own father, John

Henry Gurney, sen., whose work on the Accipitres is known to us all.

Gurney on the Annals of Ornithology.

[Early Annals of Ornithology. By J. H. Gurney, F.Z.S. With illustrations from Photographs and old Prints. Pp. 8+240. London (Witherby), 1921. 8vo.]

We desire to heartily congratulate Mr. Gurney on the completion of his long-expected 'Annals of Ornithology.' We can imagine that the compilation of the work has been a labour of love to its author, and it certainly has provided a rich storehouse of ornithological lore to the reader. "To collect all the ancient passages about birds, of any special interest, but more particularly those which concerned British Birds, and to string them together in order of date" was the author's scheme as set out in the preface, and although the outcome of this endeavour has resulted in a somewhat disjointed account of the various species, owing no doubt to the interpolation of fresh matter after the first proofs were set up, the general interest of the work is by no means diminished thereby. The 'Annals' embrace a period ranging from prehistoric times till the close of the eighteenth century, and include a very full collection of extracts from the various rare and ancient books which deal with matters ornithological in these islands, though we notice that the passages in Fynes Morrison's "Itinerary" (1617) referring to the "Foules" of England and Ireland* are omitted, and we should have

* The latter runs as follows:—"Ireland hath great plenty of Birds and Foules, but by reason of their naturall sloth, they had little delight or skill in Birding or Fowling. But Ireland hath neither singing Nightingall, nor chattering Pye, nor undermining Moule, nor blacke crow, but onely Crowes of mingled colour, such as we call Royston Crowes. They have such plenty of Pheasants, as I have known sixtie served at one feast, and abound much more with Rayles; but partridges are somewhat rare. There be very many Eagles: and great plenty of Hares, Conies, Hawkes, called Gosse-Hawkes, much esteemed with us. . . . The Hawkes of Ireland called Goss-Hawkes are (as I said) much esteemed in England, and they are sort out by myn and all means to be transported thither."

welcomed an extension of the references to the Great Auk (*Alca impennis*), concerning which bird a vast fund of unpublished information is to be found in the late Professor Newton's MS. "Garefowl Book" in the Newton Library at Cambridge.

In addition to the copious extracts furnished from printed works, Mr. Gurney has gathered a valuable fund of information from unpublished Household Accounts and kindred sources, and in particular he is able, in his ninth chapter, to make important additions to that portion of the "Le Strange Household Accounts" first published in 1834 by Mr. D. Gurney in vol. xxv. of 'Archæologia.' These constitute a valuable and interesting description of the various birds and other articles of food used in the domestic economy of a Norfolk country house in the sixteenth century.

In conclusion, we must confess that we have seldom read a more fascinating volume, or one that carries back the imagination more vividly to the "good old days"; and as we turn over the pages we can readily visualise what excitement must have reigned at Hunstanton Hall when the first bird—albeit merely a "Watter hen"—was "killed wt the gun" on that autumn day in 1533, and wish we could have witnessed the great spectacle at Kenilworth * some forty years later, when among other pleasing devices a bridge was prepared for Queen Elizabeth to pass over, where "upon the first payr of posts were set too cumly square wyre cages, each a three feet long, too foot wide: and by in them live bitters, curluz, shoovelarz, hearsheawz, godwitz, and such like dainty byrds, of the presents of Sylvanus the god of Food."—W. H. M.

Hankin on Soaring Flight.

[The Problem of Soaring Flight. By E. H. Hankin. With an introduction by F. Handley Page, C.B.E. Proc. Cambridge Philos. Soc. xx. 1921, pp. 219-227.]

Dr. Hankin, the Chemical Examiner to the Government

* P. 181, 'Annals.'

of India, has been occupying his leisure for many years in investigating the problem of flight, not only in birds, but also in flying fishes and insects and even pterodactyls! He published in 1914 a volume on the subject, which we fear has not attracted the attention it should have; for his work is of a most interesting nature, and he has devised a number of exceedingly ingenious instruments and mathematical methods for recording the speed of flight.

The present short paper deals with the problem of soaring flight. How does a bird whose body is heavier than the air maintain itself at great elevations without perceptible movement of its wings and in a calm atmosphere?

In the present paper Dr. Harkin gives a summary of his observations during the last ten years, and the conclusion he reaches is that "soaring flight is inexplicable in the light of existing knowledge." He believes that in some way or other the energy involved is derived from the sun's rays, and he hopes that a solution may eventually be discovered by experimental investigation. The introduction by Mr. Handley Page deals with the bearing of soaring flight on mechanical aviation.

Hartert on the Palearctic Birds.

[Die Vögel der paläarktischen Fauna. Von Dr. Ernst Hartert. Bd. ii. Heft xi.-xii. pp. 1345-1600; Heft xiii.-xiv. pp. i-xxiv & 1601-1764; Bd. iii. Heft xv. pp. 1765-1892. Berlin (Friedländer), 1920-1921. 8vo.]

The numbers of Dr. Hartert's invaluable work are coming out more quickly now, and we have before us two double parts, completing the second volume, and the first part of the third volume, containing more matter than we can well deal with in a short article.

In parts xi.-xii. the balance of the Ducks, the Steganopodes, Tubinares, Pygopodes, Columbæ, Pterocletes, and a portion of the Limicolæ are dealt with. Parts xiii.-xiv. contain the rest of the Waders and the Gulls (Lari).

Part xv. is occupied with the Alcæ, the Alectorides (with families Otidæ, Gruidæ, and Rallidæ), the Hemipodii or Turnices, and the Galli. This leaves only the rest of the Galli and the Ostrich to finish, but we understand a formidable supplement and indexes are to follow to complete the work and bring it up to date.

We have found a few points which appear to require comment. The type of *Podiceps* is stated to be *P. fluviatilis*. This must surely be a slip of the pen for *P. cristatus*; moreover, the Little Grebe is called *P. ruficollis* in the main text and not *P. fluviatilis*. We note also that the genus *Morus* is admitted for the Solan Goose. Although the generic name of the Cranes is rightly given as *Megalornis*, the family itself is named Gruidæ; surely according to nomenclatural rules the family name should be taken from the earliest-described genus within its limits. Anyhow, as *Grus* has been shown to be a synonym of *Psophia*, it seems illogical to use the term Gruidæ as a family name.

It will be, perhaps, useful to mention the new forms described in the three parts now under notice. They are as follows:—*Podiceps ruficollis japonicus*, p. 1455; *Ænopenelia tranquebarica murmensis* from the Himalayas, p. 1499; *Cursorius gallicus exul* from the Cape Verde Islands, p. 1526; *Sterna maxima albididorsalis* from west African coasts, p. 1698; *Gallinula chloropus seychellarum*, p. 1843; and *Lagopus mutus pyrenaicus*, p. 1869.

With regard to the Seychelle Moorhen, a race from the island of St. Denys to the north of the main group of the Seychelles appears to have been named by the late Prof. Newton (Dict. Bds. p. 590, footnote) *Gallinula dionysiana*, though the description is not very adequate and the diagnostic character relied on is the extreme reduction of the size of the wings. This does not appear to be the case with the bird described by Dr. Hartert, but comparison of the two forms would be of interest.

Hartert on the Types at Tring.

[Types of Birds in the Tring Museum. By Ernest Hartert, Ph.D. B. Types in the general collection. Nov. Zool. xxvi. pp. 123-178, 1919, and xxvii. pp. 425-505, 1920.]

Dr. Hartert has already rendered a great service to ornithology by his Catalogue of the types in the Brehm collection, chiefly of Palæarctic forms (Nov. Zool. 1918, pp. 4-63). He has now in the papers before us commenced to list those in the general collection, and although he has enumerated 878 he has not completed the Passeres.

This is a striking testimony to the value and completeness of the collections in the Tring Museum gathered together in so comparatively short a space of time by the enthusiasm of Lord Rothschild and Dr. Hartert.

The majority of the birds described from the Tring collections are naturally those named by Lord Rothschild and Dr. Hartert themselves, though a good many have been described by Drs. Hellmayr, Neumann, and Stresemann and others who have worked at Tring.

There are also a number of types which have been acquired with collections which had already been described elsewhere. The names which are now regarded as synonyms are marked with a dagger (†), and appear to be very few compared with those that are considered valid; while there are quite a number of new subspecies and names mentioned for the first time, which must be carefully noted by the working ornithologist.

Kuroda on new Japanese and Formosan birds.

[Descriptions of three new forms of birds from Japan and Formosa. By Nagamichi Kuroda. Dobuts. Zasshi, xxxii. pp. 243-248, 1920.]

The birds described are *Milvus lineatus formosanus* from Formosa, distinguished from the mainland form by its smaller dimensions; *Nyroca ferina ferinoides* from Japan in winter, probably breeding in south-eastern Siberia. It differs from the Common Pochard by its shorter wing, which measures 203-210 mm. as against 213-224 mm.

The iris is noticed as bright red, whereas in the Common Poohard it appears to be yellowish to orange. The third new bird is *Campephaga lugubris asakurai* from Formosa.

Mathews and Iredale's Manual of Australian Birds.

[A Manual of the Birds of Australia. By Gregory M. Mathews and Tom Iredale, illustrated with coloured and monochrome plates by Lillian Medland. Vol. I. Orders Casuarii to Columbæ. Pp. xxiv+279; 10 col. & 36 monochrome plates. London (Witherby), 1921. 8vo. Price £3 3s. each volume.]

Not content with his larger work on the birds of Australia, of which eight volumes are now complete, the indefatigable Mr. Mathews in collaboration with Mr. Iredale has now planned a new work on the same subject on a somewhat smaller and less ambitious scale, to be completed in four volumes, of which this is the first.

As is now the case with the larger work, the species are treated of as a whole, and the subspecific races are only mentioned under the heading "Distribution and Forms." The other information in regard to breeding habits is concisely stated, and full description of the plumages are given. There are no keys, but the genera and families are fully diagnosed. The classification is somewhat novel and is somewhat on the lines of Sharpe's 'Hand-list,' but the arrangement and names of the orders are altered; while in the present volume the Frigate-bird is raised to the dignity of a special order, and the Gulls, Shore-birds (Charadriiformes), and Tropic Birds are banded together under the order Lari.

The monochrome plates of heads, bills, and feet will undoubtedly be found most useful to explain the generic diagnoses. Our only complaint is that they are not referred to in the text; indeed, they would have proved more useful still if they could have been interpolated in the letterpress on the pages to which they refer. Seven subspecies have been named as new belonging to the genera *Eudypetes*, *Heteroprion*, *Phæbetria*, *Sulita*, *Chlidonias* (= *Hydrochelidon* auct.), and *Pelecanopus*.

The work will undoubtedly prove most useful to Australian as well as to other workers, and we shall reserve our further remarks and criticisms until the other volumes are completed.

Most of the coloured plates represent nestlings and are of great interest; in fact, all the plates are very good and reflect the greatest credit on Miss Medland, the artist who is responsible for them.

Mathews on Australian Birds.

[The Birds of Australia. By Gregory M. Mathews. Vol. ix. pts. 1 & 2, pp. 1-96, pls. 400-411. London (Witherby), Feb. & Apr. 1921.]

The Fan-tailed Flycatchers are fascinating little birds, with attractive ways and beautiful nests. Among these, Mr. Mathews only leaves one Australian species in the genus *Rhipidura*, though he admits that his *Howeavis* and *Setosura* are closely allied. They vary in coloration, size of bill and of feet, while *Leucocirca* is still more easily distinguished by the same characteristics, as Swainson was the first to observe. *Rhipidura flabellifera* is divided by the author into eleven subspecies; besides those that are extralimital, several were formerly considered worthy of specific rank. This form is not depicted in the Watling drawings, but the Rufous Fan-tail (*Howeavis*) is given two figures. Six subspecies are here recognized for Australia; those outside need further examination. On page 30 we find a criticism under *Setosura* of Hartert's opinions, and the objection is raised that some of the subspecies allowed by that author show no real relationships. Mr. Mathews himself gives four for Australia, writing *dauidi* for *macgillivrayi* preoccupied. *Leucocirca tricolor* should be *Leucophrys* (p. 40); here there has been a great confusion of names. Mr. Mathews makes four subspecies, one of which (*carteri*) is new.

Mastersornis, the genus used by the author for *Myiagra* preoccupied, is taken to have three species. Of the first the synonymy has been much confused, but Latham's

name *rubecula* has priority, and is identical with *plumbea* and *rubiculoides* of Vigors and Horsfield, while Gould's *concinna* is only one of seven subspecies recognized by Mr. Mathews, as opposed to five by Rothschild and Hartert—including extralimital forms. Similarly, *M. cyano-leucus* has priority over *nitida* of Gould, and includes as subspecies *robinsoni* and *nuptus*, the latter of which was considered a full species from the Louisiade Group by Hartert. *M. ruficollis*, which is identical with *latirostris* of Gould, has five subspecies, three being Australian.

The very broad-billed *Machæirhynchus* has one species (*flaviventer*) from Cape York and a large subspecies (*secundus*) from Cairns district, apart from others, outside the Continent. That familiar bird the Restless Flycatcher, or scissors-grinder (*Seisura*), was depicted no less than four times by Watling, and subsequently named four times by Latham. His first name (*inquieta*) holds, and five subspecies are here recognized. Of these, *nana* was considered a full species by Gould, while *rogersi* is now given as a new form from north-west Australia.

Ophryzone is a genus of one species confined to the Cairns district, for Mr. Mathews has separated *lorealis* from *kaupi* under a genus, *Proseisura*. *Piezorhynchus* has one Australian species, originally discovered by Gilbert, which is divided into four subspecies under the head of the extralimital *alecto*. We next come to a group of birds differentiated by Bonaparte as *Symposiachrus*, and allied to *Monarcha*. There is one Australian species (*trivirgatus*) with two subspecies (*albiventris* and *gouldii*), for Sharpe's *medius* is the same as the former, and *stalkerii* is now dropped. *Carterornis leucotis* has had a luckier fate, for it has been named but once, though two subspecies are admitted. *Monarcha* proves to be a composite group, the consideration of which begins in this part. A new genus (*Penemonarcha*) is proposed for Salvadori's species *axillaris*, while *Monarchana* is to be used for *Chrysomela* of Garnot.

Saunders on the birds of Montana.

[A distributional list of the birds of Montana, with notes on the migration and nesting of the better known species. By Aretas A. Saunders. Pacific Coast Avifauna of the Cooper Ornithological Club, no. 14, pp. 1-194; map and 35 figs. from photos. Berkeley, California, 1921.]

The State of Montana is nearly three times the size of England; it lies along the northern boundary of the United States, and its western third is traversed by the Rocky Mountains, which, however, do not rise above an elevation of 11,000 feet, while its eastern two-thirds consists of plateau land forming the prairies. Settlement of Montana came rather late, but much development has taken place during the last ten years and has brought about many changes in the bird-life. The Trumpeter-Swan, the Sandhill and Whooping Cranes, the Sage-Hen and Long-billed Curlew, formerly common, are now becoming rare owing to closer settlement, and Mr. Saunders has done well to place his observations and those of his predecessors on record.

A short introduction is followed by a chapter on distributional areas in Montana, illustrated by a sketch-map. The list of species with their status and selected breeding and migration records occupy the greater part of the volume, and after this comes the introduced species and hypothetical list. The number of species recorded is 332. The work appears to have been very carefully done and will doubtless form a standard list of the birds of the State for some time. The text is enlivened by a number of photographs of nests, eggs, and birds by various contributors excellently well reproduced.

Söderberg on Australian Birds.

[Results of Dr. E. Mjöberg's Swedish Scientific Expeditions to Australia, 1910-1913. xviii. Studies of the Birds of North-West Australia, by Rudolf Söderberg. Kungl. Svenska Vetens. Akad. Handl. Bd. 52, no. 17, pp. 1-116; 3 pls., 25 text-figs. 1918.]

In 1910-13 Mr. Söderberg, a Swedish ornithologist who has recently been paying a visit to this country, accompanied

Dr. Mjöberg, an entomologist, on an exploring and collecting expedition to Australia. He spent some ten months in the northern tropical portion of Western Australia, in the neighbourhood of Derby and Broome, and in this paper he gives us the results of his observations. Mr. Söderberg wisely devoted a great deal of his attention to such subjects as the movements or partial migrations of birds, due to the wet and dry seasons; to the effects of discoloration produced by the extreme dryness of the summer season; to moult, which, like nesting, takes place at varying times of year, and is by no means so fixed to certain definite periods as in the temperate regions of Europe. He also made studies of the nesting-habits of many birds and the methods they adopt for combating their enemies, which appear to be chiefly egg-sucking lizards. All these matters are dealt with in a most suggestive and interesting way in the general portion of the paper. This is followed by the list of the species obtained, with notes on the juvenal plumage, moult, ecology, and other matters of interest.

The paper is of considerable importance, and should not be missed by anyone who takes an interest in the problems of the desert fauna of Australia. It is written in English.

Swarth on the genus Passerella.

[Revision of the avian genus *Passerella*, with special reference to the distribution and migration of the races in California. By H. S. Swarth. University of California Publ. in Zoology, vol. 21, 1920, pp. 75-224; 4 pls., 30 text-figs., including many maps.]

The genus *Passerella* contains a number of Sparrow-like birds, commonly known in America as Fox-Sparrows. All the forms are included under one species, *P. iliaca*, of which Mr. Swarth recognises sixteen races, including the typical one. All the races breed in the far north or at considerable elevations, while the typical race has a very wide distribution, breeding from Alaska to Newfoundland and visiting in winter the middle and southern States east of the Rocky Mts. The other fifteen breed along the western portion of the continent from the Alaska Peninsula through British

Columbia to southern California, and exhibit considerable variation, not only in plumage but in so-called structural characters, such as size of bill and length of tail. Nearly all the western races winter in California, and so great is the variation and so many are the intermediate forms that great confusion has arisen and collectors have great difficulty in identifying individual examples.

Mr. Swarth has therefore prepared this very elaborate and detailed memoir to clear up the many difficulties encountered, and has examined about 1800 specimens, including the types of fourteen of the sixteen races, in the course of his work, which is obviously of a most accurate and detailed character. Four of the more distinct races are illustrated by a beautiful plate by Major Allan Brooks; the other plates are from photographs of the characteristic scenery of the haunts of the birds.

Apart from its usefulness to Californian ornithologists, the paper deals with numerous interesting problems of variation, distribution, and migration.

Swarth on the Birds of Arizona.

[Birds of the Papago Saguaro National Monument and the neighbouring region, Arizona. By H. S. Swarth. Dept. Interior, National Park Service, pp. 1-63; 5 pls. Washington (Govt. Printing Office) 1920. 8vo.]

The Papago Saguaro National Monument is a tract of land a few miles east of Phoenix in Arizona, set aside to conserve certain types of desert vegetation in a region where increased settlement is rapidly changing the appearance of the land. Some eighty miles further east is a large artificial storage reservoir for irrigation purposes, known as Roosevelt Lake, with a bird reservation around it, and the whole region is attracting increasing numbers of visitors for its unique and romantic scenery. This little pamphlet is a guide to the bird-lover who visits this region, and has good accounts of the more common birds to be met with and a list of all those likely to be seen. The National Monuments in the United States are now 24 in number and are

administered by the same service as the National Parks, which are tracts of greater area.

Todd on new South American Birds.

[Descriptions of apparently new South American Birds. By W. E. Clyde Todd. Proc. Biol. Soc. Washington, vol. 33, 1920, pp. 71-76.]

This short paper contains descriptions of three new species and thirteen new subspecies, chiefly from French Guiana and the lower Amazon, where collections have recently been made for the Carnegie Museum at Pittsburg by Mr. S. M. Klages. The new species are as follows:—*Polioptila guianensis*, French Guiana; *Myrmopagis paranaensis*, Para, Brazil; and *Nyctipolus maculosus*, French Guiana.

Townsend on the Birds of Massachusetts.

[Supplement to the Birds of Essex County, Massachusetts. By Charles Wendell Townsend. Memoirs of the Nuttall Ornithological Club, no. 5, pp. 1-196; 1 pl., 1 map. Cambridge, Mass., 1920. 8vo.]

About fifteen years ago Dr. Townsend published an account of the birds of Essex County, which lies on the coast of Massachusetts a little to the north of Boston and contains a number of early New England settlements and towns, the most important of them being Salem, well known even in England for the burning of the witches. Dr. Townsend himself has a summer home at Ipswich further north, and has now prepared a supplemental list of the birds of the county, not only in order to bring his records up to date, but also to show the changes which have taken place during the period which has elapsed, in the distribution of the various species. Legislation has helped to preserve many otherwise vanishing species. On the other hand, the prevalence of insect pests which have done great damage to the woods of this part of the county, has led to spraying the trees with poisonous fluids, to clearing up the brushwood and undergrowth, and to the stopping up

of the holes in tree-trunks. All these have had a bad effect on some of those species formerly abundant. An interesting chapter deals with this subject, and another discusses the number of individual birds in certain limited areas—bird censuses, in fact—but the bulk of the volume is devoted to an annotated list of species with supplementary records and observations.

Bird Notes.

[Bird Notes: The Journal of the Foreign Bird Club. Edited by Wesley T. Page. Ser. 3. Vols. ii. & iii. for 1919 & 1920.]

It is, we regret to say, some time since we noticed 'Bird Notes,' and we have two volumes for 1919 and 1920 now lying before us. Among principal contributors are Mr. Baily W. Shore, Dr. E. Hopkinson, Mr. Amsler, the Marquis of Tavistock, and the editor himself, who appears to be responsible for the last half of the matter contained in the two volumes. We much regret to see that Dr. Lovell Keays, another enthusiastic aviculturist who formerly sent many good articles to this magazine, died in May last year from the effects of mental and physical strain during the three years of the war.

Among the longer and more important contributions to these two volumes must be mentioned the carefully compiled list of all species of birds which have bred in captivity, by Dr. Hopkinson, and the very practical articles by the Marquis of Tavistock on Parrots and the best methods of keeping them either in aviaries or in the open. There are also several contributions from the United States, Australia, and France where M. Delacour has re-established his aviaries destroyed during the war. He sends a detailed account of the successful breeding of the West African Touraco (*Turacus persa*). Only one species of this family had been previously successfully bred in captivity.

We regret to see that there appears to be a strong feeling among the members of the Foreign Bird Club against

amalgamation with the Avicultural Society, which was advocated some little time previously.

In addition to the usual photographs the two volumes contain a number of very artistic drawings of birds from life by Mrs. A. M. Cook. We should like to draw special attention to those of the Hornbills and Toucans appearing in the numbers for December 1919 and January 1920.

Bulletin of the Essex County Ornithological Club.

[Bulletin of the Essex County Ornithological Club of Massachusetts for 1919 and 1920.]

Essex County lies to the north of Boston, and with its ancient town of Salem is one of the oldest and earliest settlements in the United States. The ornithological club, which was formed in 1916 by the bird-lovers of Salem and the surrounding districts, now finds itself sufficiently firmly established to warrant the publication of an annual report or bulletin, and we have been favoured with copies of the first two numbers. The editor is Mr. A. P. Stubbs, and he has collected together a number of short papers and articles dealing with local avifauna of the district by Dr. Townsend, Mr. E. H. Forbush, Mr. C. J. Maynard, and other observers. One of the chief features of the club is an annual excursion in May along the Ipswich river. This has taken place regularly for thirteen years, and on these occasions altogether 136 species of birds have been identified; of these an annotated list occupies some twenty pages of the 1919 Report, and shows the care with which work of this kind is carried out in the United States.

Journal für Ornithologie.

[Journal für Ornithologie. 68 Jahrgang for 1920; 4 parts and a supplement.]

The longer articles in the last volume of the 'Journal für Ornithologie' deal with observations made during the war. Messrs. Bacmeister and Kleinschmidt conclude a long paper on the birds of north-eastern France, begun in the

two previous volumes, and a good many subspecies not mentioned in Hartert's Vög. pal. Fauna are discussed at length. Count Zedlitz commences a similar series of articles on the birds of the eastern front, dealing with the collections and summarizing the observations of various other ornithologists, as well as his own, on the birds in the vast swamps of the head-waters of the Pripjet River in southern Poland and the neighbouring parts of Russia—a melancholy region, wild and inaccessible, and but sparsely inhabited by man though swarming with birds. Another paper, also in several parts, dealing with the birds of the Ural region in eastern Russia is from the pen of Mr. H. Grote.

Mr. Osear Neumann contributes a long list of new genera and of subspecies from different parts of Africa. These, he states, have long been known to him, and indeed many of the types are in the Tring and London museums, which he visited before the war. But, as he mournfully writes, seeing little chance of securing further material for comparison, he now publishes his old notes. The new genera are *Knestrometophon* for *Sigmodus scopifrons* Peters, *Suaheliornis* for *Phyllastrephus kretzschmeri* Rehw., *Sathrocercus* for *Bradypterus barakæ* Sharpe, *Vibrissosylvia* for *Callene cyornithopsis* Sharpe, and the new races described are sixteen in number.

Another paper by Count Zedlitz reviews the eastern races of *Certhia familiaris* and *C. brachylactyla*, and includes descriptions of several new races; while Dr. Reichenow has some remarks on the South American genus *Cinclodes*, and also adds to the number of described races. The last supplementary part is entirely occupied with portion of a work on the birds of Egypt by Prof. Koenig, of Bonn. It contains the accounts of the Insectores (*i. e.* Picarians and their allies) and the Coraces (Orioles, Bulbuls, Starlings, and Crows). Full diagnoses of the genera and species are given; also the names in English, French, and Arabic, and detailed accounts of the nesting-habits and eggs of such species as breed there.

L'Oiseau.

[*L'Oiseau.* Revue d'Histoire naturelle appliquée. Vol. i. for 1920. 12 nos.]

This is a new journal which has recently reached us. It is published by the Société nationale d'Acclimation of France, and consists of two parts, the first dealing with Mammalogy, Pisciculture, Entomology, Botany, and Colonization; the second with Ornithology. The President of the Ornithological Committee is M. Jean Delacour, well known to English aviculturists as a most successful breeder of wild birds in captivity. The new journal is run very much on the same lines as our British 'Avicultural Magazine,' and many of the contributors to the first volume now under review hail from this side of the Channel. After an introduction on the beauty and usefulness of birds and the delight which we find in studying their ways and habits, by Mr. Edmond Perrier, who is the President of the Society and the Director of the Museum of Natural History, Mr. Seth Smith follows with an account of the bird-houses in the London Zoological Gardens. There are also articles by Mr. H. D. Astley and Wesley T. Page.

The principal French contributors are M. Delacour, who has an interesting notice on his experiences with living Humming-birds, and M. A. Decoux, who describes some remarkable Weaver-bird hybrids, one of which (*Zonogastris melba* × *Estrilda phœnicotis*) is figured in colour. There are two other coloured plates of the Gang-gang Cockatoo, *Callocephalon galeatum*, by M. A. Millot. M. Delacour is hoping to be able to breed this rare species in captivity. He has a fine male which he hopes to mate with a hen belonging to the Marquis of Tavistock.

There are many other illustrations, reproduced from photographs and drawings, to accompany articles by other aviculturists. We wish every success to the new venture of our brave allies.

Oologists' Record.

[The Oologists' Record: a Quarterly Magazine devoted to the advancement of Oology in all parts of the World. Vol. i. No. 1, March 1921. Published by Harrison & Sons, London.]

We have been favoured with a copy of a new magazine devoted to Oology. It is edited by Mr. Kenneth L. Skinner, and contains several pleasant articles on birds and bird-nesting. The first, by C. F. B., contains a list of species found breeding in the neighbourhood of Mombasa, some of those met with being by no means common, but we should like to know that they were all identified by collecting the skins. The second article, by Mr. J. Bishop, is on birds met with along the western front in France; the most interesting note is on the Little Bustard, whose breeding place was probably located though the eggs were not found. Captain Pitman has a third article on bird-nesting in Palestine, but he only deals in the present number with the Rufous Warbler and the Whitethroat, which are treated at considerable length.

A picture of the Kite by Frohawk adorns the cover, perhaps not the best frontispiece that could be chosen for an Oological Magazine.

South African Journal of Natural History.

[The South African Journal of Natural History. Vol. ii. for 1920.]

With this publication the former Journal of the South African Ornithologists' Union is now incorporated, and we have recently received the two numbers for 1920, making up the second volume. Among the papers on birds is one by the late Lieut. C. G. Finch-Davies on the avifauna of the South-West African Protectorate, which adds to our knowledge of the distribution of South African birds. Verreaux's Eagle (*Aquila verreauxi*) is recorded from the Protectorate for the first time. It was found nesting on a krantz near Windhuk. Mr. Finch-Davies has also identified *Lanius luebberti* Reichw. as an immature *L. minor*,

Some further field-notes on Verreaux's Eagle are contributed by Mr. R. E. Symons, whose observations were made in the Drakensberg mountains between Natal and Basutoland.

Mr. R. Godfrey continues his account of the birds of the pleasant and diversified valley of the Buffalo river in the eastern Cape Province. His first paper deals with the Tits and Sugarbirds, and his second with the White-eyes, Bulbuls, Larks, and Pipits.

The little island of St. Croix in Algoa Bay, where Bartholomew Diaz is stated to have erected a cross or "padrao" to mark his discovery in 1488, has recently been visited by Mr. J. Hewitt, who found Penguins (*Spheniscus demersus*) and White-breasted Cormorants (*Phalacrocorax lucidus*) breeding there in large colonies. His article is illustrated with two photographs.

Yearbook of the Dutch Bird-Club.

[Club van Nederlandsche Vogelkundigen: Jaarbericht no. 10 for 1920.]

This Yearbook for 1920 is issued in four parts instead of one annual volume, and contains a good deal of interesting matter. The editor, Baron Snouckaert van Schauburg, contributes two accounts of collections recently made in Sumatra by Heer van Heijst, which contain several birds new to this island, viz.:—*Falco peregrinus ernesti*, *Monticola solitarius pandoo*, *Criniger finschi*, and *Kenopia striata*. He also has his annual report on the occurrence of rare birds in Holland from October 1919 to September 1920.

Heer H. C. Siebers discusses the status and relations of *Corvus cornix* and *C. corone*, and whether they should be considered as distinct species or only subspecies, and Heer A. Hiverson continues his essay on the birds of the Javanese rice-fields; Heer C. G. B. ten Kate has a note on an old work on whaling and the natural history of the Arctic regions by C. G. Zorgdragers, published in 1728, and endeavours to identify the birds mentioned therein. Finally, the third part is occupied by a paper by Dr. E. Stresemann in German on the origin of the fauna of the Alps and other mountain ranges of central Europe.

List of other Ornithological Publications received.

- COUNT ARRIGONI DEGLI ODDI. Reprints of nine recent papers.
 GURNEY, J. H. Ornithological Notes from Norfolk for 1920. (Brit. Birds, xiv. pp. 242-252.)
 RILEY, J. H. Four new Birds from Celebes and Five new genera of Birds. (Proc. Biol. Soc. Washington, vol. 34, pp. 51-58.)
 WITHERBY (Edited by). A Practical Handbook of British Birds. (Pt. x.)
 Auk. (Vol. xxxviii. no. 2.)
 Avicultural Magazine. (Vol. xii. nos. 3-5.)
 Bird-Lore. (Vol. xxiii. no. 2.)
 Bird Notes. (Vol. iv. nos. 3-4.)
 British Birds. (Vol. xiv. nos. 11-12.)
 Brooklyn Museum Quarterly. (Jan, 1921.)
 Canadian Field Naturalist. (Vol. xxxiv. no. 8.)
 Condor. (Vol. xxiii. no. 2.)
 Emu. (Vol. xx. no. 4.)
 Fauna och Flora. (1921, pt. 2.)
 Gerfaut. (Vol. xi. fasc. 1.)
 Irish Naturalist. (Vol. xxx. nos. 4-5.)
 Jaarbericht Club van Nederlandsche Vogelkundigen. (Vol. xi. pt. 1.)
 Journal für Ornithologie. (Vol. 69, part 2.)
 L'Oiseau. (Vol. ii. nos. 3-4.)
 Ornithologische Monatsberichte. (Vol. 29, nos. 5-6.)
 Revue Française d'Ornithologie. (Nos. 144-145.)
 Scottish Naturalist. (Nos. 111, 112.)
 South Australian Ornithologist. (Vol. vi. nos. 1-2.)

XXX.—*Letters, Extracts, and Notes.***Plumages of Nestling Owls.**

SIR,—In the April number of 'The Ibis' (*antea*, p. 348) Mr. Bonhote refers to four plumages of the young Eagle-Owl which he had described in the 'Bulletin B. O. C.' (vol. xxvii. pp. 82-83). The question is of some importance, as it involves the number of generations of plumage. I should therefore like to point out that I cannot agree with Mr. Bonhote that the Eagle-Owl has three generations of